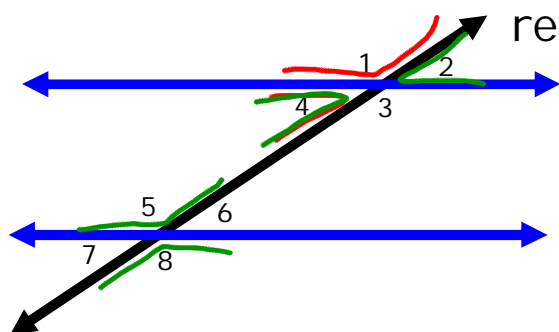


OPENER:

What is the relationship between the following \angle s? Explain your reasoning.



1) $\angle 1$ & $\angle 4$

SUPP. ADJ.
LIN. PR.

2) $\angle 5$ & $\angle 8$

VERT.

3) $\angle 2$ & $\angle 4$

VERT.

3.1/3.2 Angle Pairs Formed by Parallel Lines

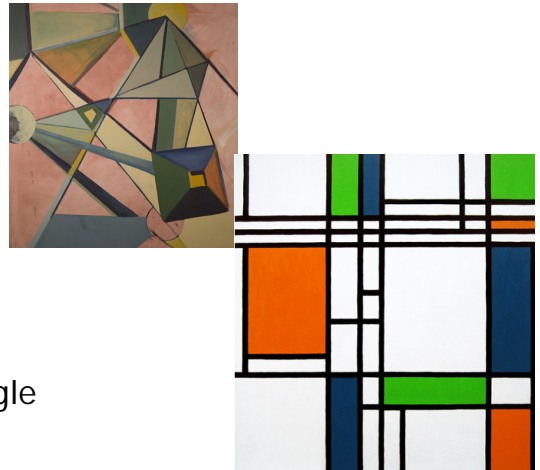
Target 3B: Know and apply the term transversal and angles formed by 2 lines and a transversal:

Alternate Interior, Alternate Exterior, Consecutive (Same side) Interior, and Corresponding Angles.

Geometry in da REAL world YO!

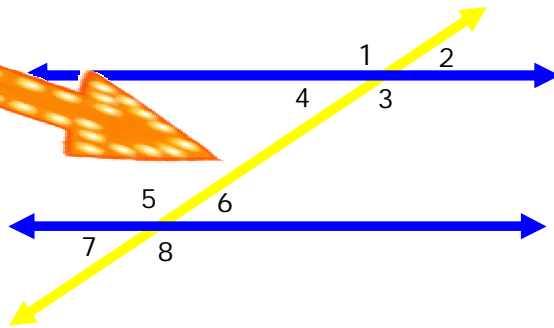
-Artists use lines and transversals to create patterns.

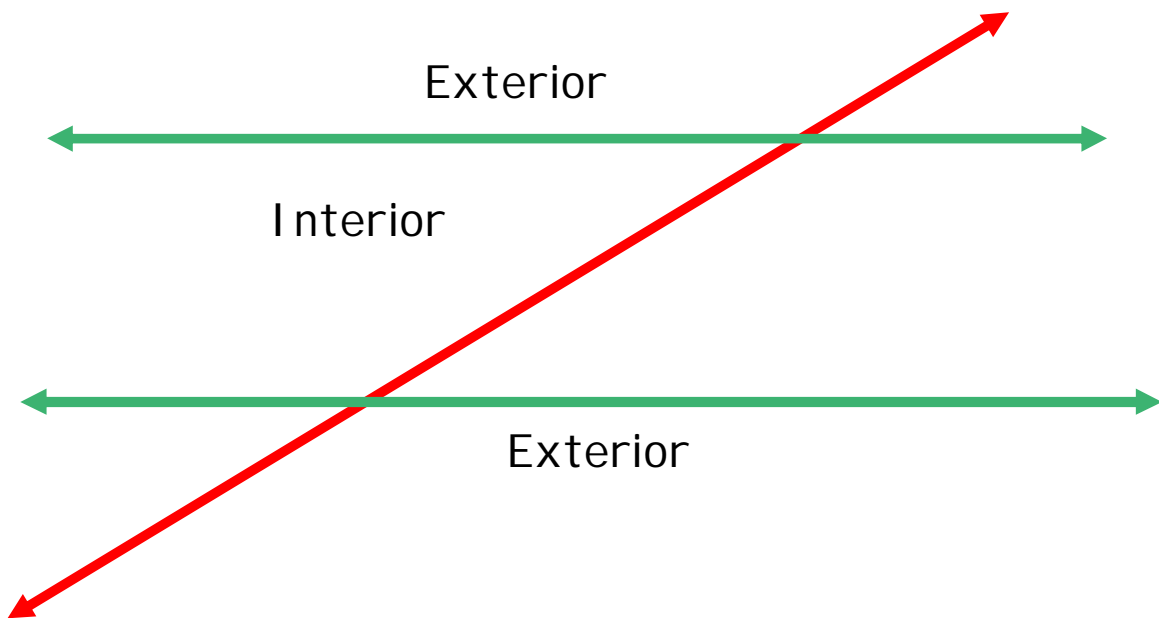
-There is a special relationship between the angle pairs formed by these lines.

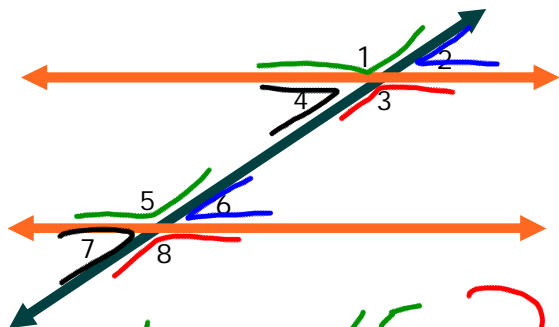


Transversal

A LINE THAT
INTERSECTS TWO
OR MORE LINES
AT DIFFERENT
POINTS







Corresponding Angles:

ANGLES THAT ARE
IN THE SAME
POSITION

$\angle 1$ AND $\angle 5$

$\angle 2$ AND $\angle 6$

$\angle 3$ AND $\angle 8$

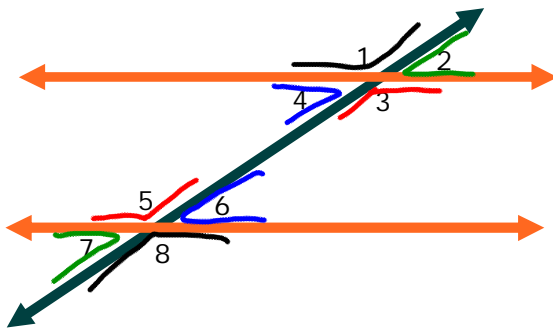
$\angle 4$ AND $\angle 7$

CORRESPONDING \angle s

IF THE LINES ARE \parallel
THEN CORRESPONDING
 \angle s ARE \cong

Example 1: In the figure, $m\angle 3 = 133^\circ$

Find $m\angle 5$.



$$\angle 8 = 133^\circ \quad \text{CORR } \angle$$

$$\angle 5 = \angle 8 \quad \text{VERT } \angle$$

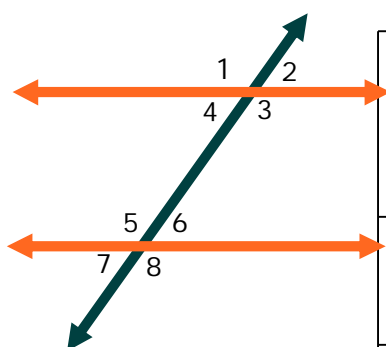
$$\angle 5 = 133^\circ$$

Alternate Interior Angles : ANGLES THAT LIE BETWEEN THE LINES ON OPPOSITE SIDES OF THE TRANSVERSAL

$$\angle 4 \text{ AND } \angle 6 \quad \angle 3 \text{ AND } \angle 5$$

ALTERNATE EXTERIOR ANGLES: ANGLES THAT LIE OUTSIDE THE LINES ON OPPOSITE SIDES OF THE TRANSVERSAL

$$\angle 2 \text{ AND } \angle 7 \quad \angle 1 \text{ AND } \angle 8$$



(SAME SIDE)

Angle Type	Examples	When two parallel lines are cut by a transversal...
Alternate Interior Angle	$\angle 3$ AND $\angle 5$ $\angle 4$ AND $\angle 6$	ALT. INT. $\angle 5 \cong$
ALTERNATE EXTERIOR ANGLES	$\angle 1$ AND $\angle 8$ $\angle 2$ AND $\angle 7$	ALT. EXT. $\angle 5 \cong$
CONSECUTIVE INTERIOR ANGLES	$\angle 3$ AND $\angle 6$ $\angle 4$ AND $\angle 5$	CONSEC. INT. $\angle 5$ SUPP.
CONSECUTIVE EXTERIOR ANGLES	$\angle 1$ AND $\angle 7$ $\angle 2$ AND $\angle 8$	CONSEC. EXT. $\angle 5$ SUPP.
CORRESPONDING ANGLES	$\angle 1$ AND $\angle 5$ $\angle 2$ AND $\angle 6$	CORRESP. $\angle 5$ \cong
	$\angle 3$ AND $\angle 8$ $\angle 4$ AND $\angle 7$	

Example 2: Find the missing Angles.

